

CLAIMS:

1. (Currently amended) A neurosurgical catheter having a single fine tube arranged for insertion into the brain parenchyma of a patient with an external diameter of not more than 1.0mm, a hub, and a stop surface operatively connecting the single fine tube and the hub, wherein the stop surface maintains a distal end of the catheter accurately located at a target in the brain parenchyma of the patient.
2. (Original) A neurosurgical catheter according to claim 1, having an external diameter of not more than 0.7mm.
3. (Original) A neurosurgical catheter according to claim 1, having an external diameter of not more than 0.65mm.
4. (Original) A neurosurgical catheter according to claim 1, having an external diameter of not more than 0.5mm.
5. (Previously presented) A neurosurgical catheter according to claim 1, wherein the fine tube of the catheter is generally circular in cross-section.
6. (Previously presented) A neurosurgical catheter according to claim 1, further comprising a connector tube connected to one end of the fine tube, the connector tube being of greater diameter than the fine tube.
7. (Previously presented) A neurosurgical catheter according to claim 6, wherein the hub is disposed between the fine tube and the connector tube.
8. (Original) A neurosurgical catheter according to claim 7, wherein the hub includes a passageway connecting the fine tube and the connector tube.

9. (Previously presented) A neurosurgical catheter according to claim 8, wherein the passageway includes a first passage in which the fine tube is securely inserted.

10. (Previously presented) A neurosurgical catheter according to claim 8, wherein the passageway includes a second passage in which the connector tube is securely inserted.

11. (Previously presented) A neurosurgical catheter according to claim 10, the hub further including a link passage disposed between the first and second passages.

12. (Previously presented) A neurosurgical catheter according to claim 7, wherein the hub includes a cylindrical body.

13. (Previously presented) A neurosurgical catheter according to claim 7, wherein the hub includes one or more flanges by which it is secured to the skull of the patient.

14. (Previously presented) A neurosurgical catheter according to claim 13, wherein each flange includes an internal surface defining a countersunk hole by which the hub can be secured to the skull of a patient by screws.

15. (Canceled)

16. (Previously presented) A neurosurgical catheter according to claim 7, wherein the hub is tapered towards the stop surface.

17. (Previously presented) Neurosurgical apparatus comprising:

a guide tube for insertion into the brain of a patient towards a desired target, the tube having distal and proximate ends and a head disposed at the proximate end of the tube for attachment to the skull of the patient; and

a catheter arranged for insertion into the brain parenchyma of the patient via the tube, the catheter being arranged according to claim 1.

18. (Original) A neurosurgical catheter according to claim 17, wherein the head of the guide tube includes an externally threaded surface for engagement with the skull of the patient.

19. (Previously presented) A neurosurgical catheter according to claim 17, wherein the head including a slotted dome structure, and wherein the catheter is arranged according to claim 15 or 16 such that the stop of the catheter abuts the dome structure as the fine tube passes through the slot.

20. (Original) A neurosurgical catheter according to claim 19, wherein the slot is shaped such that, as the catheter is bent over in the slot, it resists kinking.

21. (Previously presented) A neurosurgical catheter according to claim 19, wherein the domed structure is shaped such that, as the catheter is bent over in the slot with the stop abutting the domed surface, the distal end of the catheter will remain accurately located at its target.

22. (Previously presented) A neurosurgical guide device comprising;
a tube for insertion into the brain of a patient towards a desired target, the tube having a distal end and a proximal end;
a head disposed at the proximal end of the tube for attachment to the skull of the patient,
characterized in that the internal diameter of the tube is not more than 1 mm; and that the tube is at least 40 mm in length.

23. (Previously presented) A method of positioning a catheter at a target in the brain parenchyma of a patient, comprising:

insertion of a neurosurgical guide into the brain towards the target, the guide including a tube having distal and proximal ends, and a head disposed at the proximal end thereof, the length of the tube being at least 40 mm;

securing the head to the skull; and

insertion of a catheter of no more than 1mm diameter through the tube and into the target.

24. (Previously presented) A kit comprising:

one or more neurosurgical devices according to any one of claims 1, 17, or 22;

one or more guide tubes for insertion into the brain of a patient towards a desired target, each tube having distal and proximate ends and a head disposed at the proximate end of the tube for attachment to the skull of the patient; and

one or more guide wires.

25. (Original) The kit according to claim 24, which is provided in a pack having separately marked sections, wherein each section contains one catheter, one guide tube and one guide wire.

26. (Currently amended) A neurosurgical catheter having a single fine tube arranged for insertion into the brain parenchyma of a patient with an external diameter of not more than 0.7 mm.

27. (Previously presented) A neurosurgical catheter according to claim 26, having an external diameter of not more than 0.65 mm.

28. (Previously presented) A neurosurgical catheter according to claim 26, having an external diameter of not more than 0.5 mm.